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ABSTRACT

Following up on an earlier study which found that blacks and whites differed significantly on a 54-item development scale designed to measure effective individual functioning, or "maturity," this report considers whether the content of the Psychosocial Maturity Scale (PSM) is biased in favor of white children and if this bias invalidates the scale for blacks; and examines in detail both racial similarities and differences in maturity scale responses. Racial similarities and differences were explored via a factor analysis and analyses of individual items. The factor structure obtained for blacks was virtually the same as that obtained previously for a 95 percent white sample. At the item level, the greatest similarities occurred with respect to attitudes toward educational innovations. Such items produced the smallest between-race differences, in general, at the two grade levels studied, 5th and 11th grades. The greatest differences emerged on items which reflected feelings of control over job choice, expectancies of job success and satisfaction, and feelings toward people who differ in status and beliefs--whites claiming more positive job attitudes and less anxiety about individual differences than blacks. Appended are questionnaire formats and tabulated test results emerging from the study. (Authors/RJ)

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BLACK-WHITE DIFFERENCES IN PSYCHOSOCIAL MATURITY: A FURTHER ANALYSIS

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INTRODUCTORY STATEMENT

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through five programs to achieve its objectives. The Academic Games program has developed simulation games for use in the classroom. It is evaluting the effects of games on student learning and studying how games can improve interpersonal relations in the schools. The Social Accounts program is examining how a student's education affects his actual occupational attainment, and how education results in different vocational outcomes for blacks and whites. The Talents and Competencies program is studying the effects of educational experience on a wide range of human talents, competencies, and personal dispositions in order to formulate -- and research -- important educational goals other than traditional academic achievement. The School Organization program is currently concerned with the effects of student participation in social and educational decision-making, the structure of competition and cooperation, formal reward systems, effects of school quality, and the development of information systems for secondary schools. The Careers and Curricula program bases its work upon a theory of career development. It has developed a self-administered vocational guidance device to promote vocational development and to foster satisfying curricular decisions for high school, college, and adult populations.

This report, prepared by the Talents and Competencies program, further investigates black-white differences in psychosocial maturity as measured by the psychosocial maturity scale developed by Greenberger, Campbell, Sørensen and O'Connor (1971). The findings of the investigation will be used to suggest how the preliminary scale may be revised and strengthened.

Abstract

This report has two objectives: to consider whether the content of the psychosocial maturity scale (PSM) is biased in favor of white children and if this bias invalidates the scale for blacks; and to examine in detail both racial similarities and differences in maturity scale responses.

PSM is intended to predict effective functioning in the dominant culture. The possibility that certain items do not reflect this trait for members of both races was raised, examined, and, given the limitations of the available data, put to rest. Optimistic responses to items concerned with feelings of control over work opportunities, it had been conjectured, might be related to other aspects of maturity and to effective functioning for whites -- but not for blacks, whose control is in fact more limited. Comparative analyses based on a set of 10 items measuring feelings of control in situations where blacks have more limited opportunities did not support this argument, and consequently did not indicate the presence of an invalidating bias.

Racial similarities and differences were explored via a factor analysis and analyses of individual items. The factor structure obtained for blacks was virtually the same as that obtained previously for a 95% white sample. At the item level, the greatest similarities occurred with respect to attitudes toward educational innovations. Such items produced the smallest between-race differences, in general, at the two grade levels studied. The greatest differences emerged on items which reflected feelings of control over job choice, expectations of job success and satisfaction, and feelings toward people who differ in status and beliefs -- whites claiming more positive job attitudes and less anxiety about individual differences than blacks.

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Introduction

An earlier study titled "Black-White Differences in Psychosocial Maturity" found that blacks and whites differed significantly on a 54-item developmental scale designed to measure effective individual functioning, or "maturity." Analysis of variance in psychosocial maturity (PSM) showed that at both the 5th and 11th grade levels there was a significant race effect when sex and social class were controlled. This race effect resulted from a tendency of blacks to get lower scores than whites, especially on the Independence subscale. This subscale consists chiefly of items concerning the opportunity to exercise choice in one's future occupation and to become successful. The present paper investigates whether the maturity scale content is "biased" in favor of white respondents and examines in detail both racial differences and similarities in maturity scale responses.

Part I: The Question of "bias"

The concept of psychosocial maturity encompasses general socialization objectives which enable a person to function effectively in society (Greenberger & Sørensen, 1971). The concept has three general components: effective individual functioning; effective interpersonal relationships; and the capacity to support maintenance of the social system. These are desired socialization outcomes in all societies. The specific attitudes and behaviors within each component vary from one society to another. Table 1 lists a number of outcomes that appear to be pertinent to effective functioning in our society.[1] These end-products of socialization reflect desirable outcomes of development

[1]Adapted from Greenberger, 1972.

Table 1

A Model of Psychosocial Maturity

Effective individual functioning

- information regarding health and safety
- literacy
- work-related motives and competencies

Effective interpersonal relationships

- Predictability:
  - consistency
  - independence
  - identity
  - knowledge of major role expectations
- Enlightened trust

System maintenance

- tolerance of cultural and individual differences
- social commitment (e.g., investment in socialization of the young, humanistic morality)
- openness to socio-political change

for functioning effectively within the dominant culture. Neither the concept, in its present state of formulation, nor the scale described below, attempt to deal with the special circumstances of different sub-cultures.

The acquisition of traits such as those listed in Table 1 is influenced, we assumed, by three sets of factors: (1) the way in which the social system impinges on children's development; (2) the modifications brought about by parental practices; and (3) the child's own potential and limitations. Differences in the level and patterning of maturity may be due to differences in one or more of these domains. In a discussion of racial differences in psychosocial maturity it seems inconceivable, given the social position allocated to blacks in our society, that differences in social environment are not the major source of observed differences in maturity. This point of view is argued more extensively in Starr, et al. (1972).

The current scale for measuring maturity, on which present and past discussions of black-white differences are based, is only an approximation to the model presented in Table 1. It contains preliminary scales to measure self-esteem (self-acceptance), independence, tolerance, readiness for change, and identity. The selection of items is described in detail elsewhere (Greenberger, et al., 1971). Briefly, from a body of attitudinal data collected for other purposes, items were chosen which met two criteria: (1) relevance to the concept of maturity, and (2) differentiation of 11th grade from 5th grade children of a fairly large order (a minimum of 7.5% difference between age groups in endorsement of the "mature" response-alternative). The

sample on which the scale was selected consisted of a random sample of approximately 3,000 5th grade and 3,000 11th grade children attending school in Pennsylvania. Ninety-five percent of this sample was white. The scale and the scoring key are presented in Appendix A.

Basing the maturity scale on the values of the dominant culture raises some question about the validity of scores on the scale for children from a minority cultural background. Are the items "biased" in favor of white children, and does this bias invalidate the scale?

Prior to the conduct of the earlier study of black-white differences (Starr, et al., 1972) the validity of the scale as a measure of developmental trends among black children was explored. It was found that all but two items of the 54-item scale showed a between-grades difference of at least the minimum 7.5% required in making the original selection of items. The sample used in this between-grade comparison consisted of the entire black subject pool on whom data were available: approximately 1,200 students each at grades 5 and 11.

A more subtle aspect of bias will concern us here. The scale could also be biased by the presence of items which do not uniformly (i.e., for both blacks and whites) reflect differences in the trait supposedly being measured. The psychosocial maturity scale is assumed to assess the capacity for effective functioning within the dominant society. It may, however, include items on which "mature" scores are associated with effective functioning for whites, but on which the same "mature" scores are unrelated or negatively related to effective functioning for blacks. This possibility seems especially

likely in connection with items which assess feelings of control in situations where the social structure limits opportunity. The argument can be stated as follows:

The social system has in the past exerted more control over the life-opportunities of black people than of white people. This constraint can be seen most clearly perhaps in the unequal distribution of blacks and whites throughout the occupational structure. Consequently, a black child's denial of the statement, "If I work hard, I can be whatever I want to be," may be less a sign of low personal maturity than of accurate social perception. The important point in terms of the scale's validity, however, is not that blacks may obtain lower scores than whites on such items because of differences in the social realities they confront, but rather that such items may not measure blacks' capacity for effective functioning in society.

In the remainder of this section, we explore this aspect of bias in the PSM scale.

Procedure

Table 1 lists ten items which were judged most likely to reflect differences in the social realities that face black and white children.[1] These items were selected because they measure feelings of control in areas where society impinges more on the lives of blacks than whites, offering blacks more limited opportunities for success and achievement. Items measuring general feelings of personal control, such as "Luck decides most things that happen to me" and "If I stick to something

[1] The selection was based on consensus of four raters familiar with the content of the PSM scale.

I can make it work," were considered to be valid measures of psychosocial maturity for both races since they are known to be related to effective functioning, especially in the area of academic achievement. Differences in responses to general items of this type which appear both within and between races should accurately reflect differences in the ability to function effectively in the society. When an item measures control over one's future occupational prospects, however, it may not elicit responses from blacks which are indicative of the capacity for effective functioning in the way they are for whites. On the contrary, high psychosocial development among blacks could lead to the accurate perception that they have more limited occupational opportunities than whites; thus, the failure to give the "mature" response on such items may not be related to effective functioning among blacks.

The theoretical criterion used for deciding whether an item was potentially biased against blacks was not that it had control-related content but that it attempted to measure feelings of personal control in a situation where society has clearly provided fewer opportunities for blacks than for whites. Race differences generally appear in the endorsement of all types of control-related items, but the validity of the PSM scale as a measure of effective functioning for blacks should not be judged by the presence of such items since feelings of low control are, in fact, generally associated with a lower degree of effective psychological and social functioning. Whether a child is black or white, if low feelings of personal control are related to less effective functioning in society, then they should not be omitted from a scale which attempts to measure the capacity for such function-

ing by all members of the society.

The ten items in Table 2, which reflect differences in the social realities of blacks and whites, deal with feelings of control in relation to the world of work. The remaining forty-four items are considered "neutral" in that they should represent valid measures of the capacity for effective functioning in society among both blacks and whites.

Table 2

Items Judged Least Relevant to Maturity for Blacks (i.e., "Biased")

If I work hard, I can be what I want to be.
If I work hard, I can get a good job.
There isn't much of a chance for a person like me to succeed in life.
If I work at something long enough, I will succeed.
Why try to decide on a job when the future is so uncertain.
You get into an occupation mainly by chance.
It's who you know, not what you know, that is important in a job.
I really can't find any work that appeals to me.
Why worry about choosing a job when you don't have anything to say about it.
The most important part of work is the pleasure which comes from doing it.

The analysis takes up four questions: (1) Are there differences at the item level between black-white response frequencies on the "biased" items and black-white response frequencies on the "neutral" items? (2) Considering the ten "biased" items as a group, are black-white differences on the "biased" subset of items greater than black-white differences on the remaining "neutral" subset? (3) Do the "biased" and

"neutral" subsets show different relationships to the social class background of the child? and (4) Do the "biased" and "neutral" subsets relate differently to an independent measure of effective functioning? These questions have been stated in a form consistent with predicting differences between the 10 presumably biased items and the 44 remaining or neutral ones. Briefly, the predictions are as follows: (1) at the item level black-white endorsement frequencies will be most different on the "biased" items; (2) black-white differences will be greater on a scale score derived from the "biased" items than on a scale score derived from the "neutral" subset, and the correlation between "biased" and "neutral" subsets will be smaller for blacks than whites; (3) social class will be more strongly related to a scale score based on the "biased" items than on the "neutral" scale; and (4) the "biased" scale will show different patterns of association with effective functioning for blacks and whites -- unassociated or negatively related for the former, positively associated for the latter.

The sample for these and subsequent analyses is identical to that used by Starr et al. (1972): approximately 2400 white students at each of grades 5 and 11, and 1200 black students at each of these grade levels.

Findings

1. At the item level how different are the "biased" items from the "neutral" with respect to black-white response frequencies?

Table 3 presents a summary of item differences between black and white responses on the set of "biased" and "neutral" items of the PSM scale.

It can be seen that each of the "biased" items does, in fact, evoke a smaller percentage of favorable replies from blacks than whites at grades 5 and 11. In comparison, however, a very high number of items -- but not all -- from the set of more neutral items operate in the same manner. The "biased" items evoke differences within a somewhat narrower

Table 3

Summary of Black-White Differences on "Biased" and "Neutral" Items

	10 "Biased" Items		44 "Neutral" Items	
	Grade 5	Grade 11	Grade 5	Grade 11
Number of items on which per cent mature response is greater for whites	10	10	38	41
Range of differences in per cent mature response between whites and blacks	5-19	4-16	0-22	0-25
Average percentage difference in mature response between whites and blacks	11.3	8.4	9.2	7.9

range, but the average percentage difference in mature response between blacks and whites shows slightly more of a decline over the school years on the "biased" items than the "neutral." This trend is of interest since it suggests that a particular effect of blacks' passage through the school system is that pessimism about controlling one's occupational future is reduced. The average percentage difference is somewhat greater on the "biased" items than on the "neutral" items at both grade levels. This difference between the two sets of items is very small at the eleventh grade, however, and is not appreciable even at the fifth grade.

2. Considering the ten "biased" items together, are black-white differences greater on the "biased" subset of items than on the "neutral" subset of items?

This question can be examined by comparing respondents' scores, computed over the set of 10 items, with their scores for the set of 44 items. Table 4 gives the means, standard deviations, and t-tests for the differences between blacks and whites, at grade 5 and grade 11.

Table 4

Scores of Black and White Youngsters on 10-item and 44-item Scales

	Grade 5			Grade 11		
10-item "biased" scale	Black (n=1276)	White (n-2503)	White minus Black	Black (n=1194)	White (n=2236)	White minus Black
mean	5.59	6.70	1.11	7.69	8.55	0.86
s.d.	1.99	2.05	0.05	2.43	1.89	-0.54
t	15.95*			11.43*		
44-item "neutral" scale	(n=1218)	(n=2387)		(n=1158)	(n=2181)	
mean	20.64	24.52	3.88	30.07	33.49	3.42
s.d.	5.68	5.84	0.16	7.76	6.04	-1.72
t	19.04*			14.07*		

*$p < .001$.

It can be seen that blacks score lower than whites on the "biased" items at both grade levels, but that the magnitude of the race difference declines over time. These findings parallel those of Table 3. The most striking new finding contained in Table 4 is the following: While there are statistically significant differences between blacks and whites on both the 10-

and 44-item scales, at both grade levels, racial differences are greater in relation to the "neutral" scale than in relation to the potentially "biased" scale. Thus, the set of items on which greater black-white differences were anticipated because of their potentially different relationships to the maturity of blacks and whites showed no greater black-white differences than the set of remaining items, whose content was not considered to bear a different relationship to the capacity for effective functioning among blacks and whites.

A final criterion used to determine whether the items in the "biased" scale were responded to differently by blacks and whites was the relationship between the "biased" and "neutral" items within each race. This relationship is shown in Table 5. Small race differences are evident at grade 5, indicating that the "biased" scale is somewhat more highly correlated with the remainder of the PSM scale for whites than for blacks. At grade 11 race differences are again not appreciable, but they are in the opposite direction than would be expected if blacks were less likely to give "mature" responses on the "biased" items than on the "neutral" PSM scale: blacks' scores on the 10-item scale tend to be more highly correlated with the rest of the PSM scale than those of whites.

Table 5

Correlation Between "Biased" and "Neutral" PSM Scores for all Subgroups

	Grade 5	Grade 11
Black Boys	.50	.75
White Boys	.54	.68
Black Girls	.43	.77
White Girls	.50	.62

Overall, the answer to the question, are race differences greater on the "biased" items, is no.

3. Is the "biased" subset of items more strongly related to the child's social class background than the "neutral" subset of items?

The items in the "biased" subset are concerned with personal feelings of control over access to jobs and success at work. It seems plausible to suggest that children whose parents have attained a relatively low level of education and of job prestige will be less likely to feel that the locus of control over their occupational futures lies in their own hands. Blacks fall more often than whites into the lower end of the distribution with respect to education and occupational prestige.[1] Since it is for this reason that the "biased" items were expected to show greater black-white differences (although, as we have seen, they do not), they may also be more strongly related to a child's social class background than the "neutral" items. A stronger relationship between the "biased" items and social class, however, was expected to occur primarily for whites, and not for blacks, since the social class backgrounds of blacks are less variable.

Table 6 shows the correlations between three measures of family social status and the child's scores on the "neutral" and "biased" scales. Mother's and father's education were each divided into nine categories, from "some grade school" through "Ph.D. or professional degree." Father's occupational prestige was measured by the NORC prestige scores which have

[1] Mean scores on father's education were 3.48 and 3.95 for black and white fifth graders; 2.42 and 3.94 for black and white eleventh graders. Mean scores on father's occupational prestige, in the same order by race, were 30.62 and 37.36 for fifth graders; 38.34 and 41.36 for eleventh graders.

been assigned to U.S. census occupation codes. These represent average rankings of occupations by samples of the American population and have been shown to be remarkably consistent over time and when rated by a variety of subgroups, including people of different races (Hodge, Siegel and Rossi, 1964). A score in the range of 1 to 100 was assigned to each occupation.

Taking into consideration the fact that the correlations between social class and the "biased" scale are likely to be somewhat lower than

Table 6

Correlations of Social Class Measures with "Neutral" and "Biased" PSM Scales

	Grade 5				Grade 11			
	Black		White		Black		White	
	10-item	44-item	10-item	44-item	10-item	44-item	10-item	44-item
Fa's Ed	.04	.03	.20*	.26*	.04	.12*	.01	.12*
Mo's Ed	.01	-.02	.20*	.24*	.02	.11*	.02	.09*
Fa's Occ	.06*	.02	.14*	.20*	-.06*	.00	.05	.12*

*Significant at or beyond $p = .05$.

the correlations between social class and the "neutral" scale (there is less variation in the shorter scale), the correlations for whites between each of the two scales and social class are very similar; in fact, they show no greater differences than are evident between the correlations on the two scales for blacks. That is to say, within each racial group the "biased" and "neutral" scales are related to social class in much the same way. In the 5th grade, the correlations for whites are noticeably higher

than the correlations for blacks; however, within each racial group the differences in correlations for the two scales are negligible. Thus, the pattern of less dependence of maturity scores on social class background for blacks than for whites is evident at the 5th grade and is preserved with both measures of maturity. In both the 5th and 11th grades, the only variable which is more highly correlated with the "biased" scale than with the "neutral" scale is father's occupational prestige. These higher correlations with the "biased" scale are found only for blacks, are extremely small, and are of opposite signs at grade 5 and grade 11. Except for the possibility that the 10-item scale, consisting of occupation-related items, is slightly more sensitive to differences in father's occupation than to our other measure of social class for blacks, we cannot interpret the findings meaningfully. In any event, the correlations are almost negligible.

A further analysis of occupational prestige in relation to the two subsets of PSM items is presented in Table 7. Using a 95% white sample, which is most representative of the original population of respondents on whom dat. had been collected, father's occupational prestige was trichotomized as nearly as possible for the grade 5 sample and again for the grade 11 sample. All individuals in the samples used in the current study were accordingly classified as having fathers with low, medium, or high occupational prestige. Considering grade 5 first, Table 7 shows that on both the 44- and 10-item scales blacks show little change in mean scores as a function of father's occupational prestige. For whites, on the contrary, a regular increase in mean score is observed with each step upward in father's prestige, again regardless of which scale is used.

Table 7

Means and Standard Deviations on Two Subsets of PSM Items by Prestige Category of Father's Occupation[a]

	Grade 5			Grade 11		
	Prestige			Prestige		
n	Low	Medium	High	Low	Medium	High
Black	374	219	165	309	247	200
White	647	668	784	592	605	635
10-item scale						
Black	5.63 (1.83)	5.59 (2.02)	5.93 (2.23)	8.17 (2.09)	7.89 (2.27)	7.80 (2.34)
White	6.47 (2.01)	6.66 (2.03)	6.98 (2.06)	8.62 (1.84)	8.62 (1.88)	8.81 (1.67)
44-item scale						
Black	21.02 (5.40)	21.20 (6.04)	21.00 (6.03)	31.76 (6.69)	30.28 (7.67)	31.18 (2.09
White	23.71 (5.58)	24.09 (5.72)	25.89 (5.94)	33.31 (5.91)	33.60 (5.99)	34.68 (5.24)

[a]Standard deviations are shown in parentheses.

At grade 11 the pattern is less straightforward. For blacks the 44- and 10-item scales function somewhat less in parallel with each other than they did at the earlier grade level. The 44-item scale shows a noticeable decline in the middle prestige category, and the highest mean score is found in the lowest prestige category. The 10-item scale likewise shows a slight inverse trend among blacks. These curvilinear and negative relationships are consistent with the correlations seen in Table 6. The slight tendency for blacks with fathers in the lower occupational ranks to outscore other blacks on both scales may be a function of who remains in school. Assuming that drop-outs (of both races, in fact) are more likely to come from lower social class backgrounds, those blacks who despite low family occupational prestige (and by inference, low family income) are still attending school in grade 11 may be charac-

terized by unusual motivation and resourcefulness (or overall high socialization). For whites, a more stable pattern of means, similar to that at grade 5, appears; and both scales function in a like manner.[1]

In summary, results indicate that a child's social class background is not more strongly related to responses on the "biased" scale than to responses on the "neutral" scale. Despite interesting racial differences in the association between PSM and father's occupational prestige, the "biased" and "neutral" scales show basically similar within-race relationships to this variable, as they do in the case of mother's and father's education.

4. Do the "biased" and "neutral" subsets relate differently to an independent measure of effective functioning?

We turn now to the important question of whether responses to the "biased" items are related to effective functioning in the dominant society for blacks as well as for whites. This is the weakest link in our chain of explorations, since only one indicator of effective functioning was available. This indicator is the child's score on a standardized test of academic achievement. Although use of this indicator is not without flaws, it can nonetheless be argued that some ability to read, use language, and manipulate numbers is essential to functioning adequately in this society.

Table 8 shows the correlations of the "neutral" and "biased" measures of PSM with verbal and mathematical achievement.[2] Again, due

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[1] Tangentially, it is interesting to note in Table 7 that with just one exception the gap between blacks and whites on PSM (on both the "biased" and "neutral" subsets) increases steadily with each step upward in father's occupational prestige. The exception is the step from middle to high at 5th grade on the "biased" scale, where the race difference holds about steady.

[2] The reason for the small number of black cases with achievement test scores at the 11th grade is not known at present but is being explored. It appears to be a matter of design rather than accident, since we found no social class bias in the subsample for whom scores were available.

to differences in the length of the scales, the 10-item scale would be expected, other things equal, to yield smaller correlations with achievement than the "neutral" scale.

Table 8

Correlations of Two Subsets of PSM Items with Achievement[a]

	Grade 5		Grade 11		
	Verbal	Math		Verbal	Math
10-item					
Black (n=1180)	.28	.24	(n=504)	.20	.14
White (n=2400)	.32	.37	(n=2075)	.24	.22
44-item					
Black (n=1148)	.33	.26	(n=494)	.31	.39
White (n=2320)	.40	.38	(n=2048)	.35	.31

[a]All correlations are significant beyond $p = .001$.

Table 8 shows that at grade 5, achievement is somewhat more highly correlated with both "neutral" and "biased" subsets of PSM items for whites than for blacks -- a difference which is not selectively greater in relation to the "biased" set of items. Put otherwise, the expected attenuation for blacks of the relationship between achievement and the "biased" scale did not occur. In fact, on verbal achievement there is less of a difference for blacks than for whites between the " neutral" and the "biased" scales.

At grade 11, the picture is somewhat more complex. Again, achievement tends to be more highly correlated with both "neutral" and "biased" sets of items for whites than for blacks, but a qualification and an exception need to be noted. The qualification is that the degree of association is more nearly the same for blacks and whites than it was at grade 5. The exception is that mathematical achievement is more highly correlated with the neutral measure of PSM for blacks than it is for whites.

At the eleventh grade, the "neutral" scale appears to be a better measure of effective functioning than the "biased" scale for both races. Correlations for blacks and whites with verbal and mathematical achievement are consistently higher for the 44-item than for the 10-item scale. The degree of association of mathematical achievement with the "biased" scale, however, shows a relatively greater decline for blacks than for whites from that observed using the "neutral" scale, indicating that the "biased" scale is less predictive for blacks (relative to the "neutral" scale) only on the one measure of effective functioning. No explanation for these differences in the findings with respect to verbal and mathematical achievement seems tenable.

In summary, what have we learned in relation to the central question of this section? Is the scale biased in favor of whites due to the presence of items which tap feelings of control in situations where the opportunities for blacks are limited? We have learned that:

- the range of black-white differences on items in the "biased" subset is no greater than the range of differences on the "neutral" subset
- the mean percentage difference between blacks and whites on the "biased" items is slightly higher than the mean percentage difference on the "neutral" items, although the difference between the two sets of items at the eleventh grade is negligible

- black-white differences in scale scores derived from the "biased" set of items are not greater than differences obtained using the "neutral" scale
- scale scores obtained from each individual on both "neutral" and "biased" sets of items show a similar degree of association with each other for the two races
- scale scores derived from the "biased" items do not show a greater dependence on social class background than the "neutral" scale scores
- the relationships of scores on the "biased" and "neutral" subsets to measures of academic achievement are generally similar for blacks and whites. Only in the case of eleventh grade mathematics achievement is the "biased" scale less predictive for blacks than whites in comparison to the "neutral" scale. This discrepancy in the patterning of scores is hard to explain.

A reasonable interpretation of these findings is that the so-called biased items show little evidence of bias when compared to the "neutral" items. More intensive studies of the relationship between PSM and measures of effective functioning are clearly needed, however.

Part II: Racial similarities and differences on the PSM scale

Structure of Attitudes

Having dealt with the question of potential bias against blacks in the PSM scale, we turn now to a closer examination of black-white differences on PSM. The first question to raise concerns the underlying structure of the attitudes included in the scale. Specifically, is the factor structure for blacks and whites similar or different? This question has not been explored previously.

A factor analysis of the PSM scale had been carried out earlier on a 95% white sample (Greenberger, et al., 1971). The factor structure for 5th and 11th graders differed considerably, and it was decided that the factor structure of the older children who are further along in their development would be used to describe the patterning of attitudes associated with psychosocial maturity. A five-factor solution was obtained: the first and by far the largest factor was named Independence; the four others were named Self-Acceptance, Openness to Change, Social Tolerance, and Identity, in that order. The last was a rather weak factor consisting of four items which also loaded appreciably on the Independence factor.

It is possible that the attitudes of black youngsters show a different underlying structure, a finding which would be important in understanding the nature of any black-white differences on the PSM scale. Consequently, a factor analysis of the entire black 11th grade sample was performed, followed by a varimax rotation of the factor matrix. Analysis showed that a four-factor solution was optimal, consisting of the first four factors named above; items again loaded highly on the same factors on which they had loaded in the earlier "white" analysis, with exceptions noted below. These exceptions are (1) the loss of the weak Identity factor, which appears as part of the Independence factor, (2) the loss of three items which do not load on any factor, two from the Openness to Change subscale and one from the Independence subscale (items 11, 12, and 26 in Appendix A; also shown as items 20, 22, and 42 in Appendix B).

For each race separately Appendix B shows the factor on which

each item loads, the factor loadings, and the item communalities. Appendix C shows the rotated factor matrix for the 5-factor solution obtained for the whites, while Appendix D shows the rotated matrix for the 4-factor solution obtained for the blacks. Comparison of the variance attributable to each factor (given in the last line of figures of Appendices C and D) indicates that the factors discriminate among respondents of both races in the same order. The largest factor, Independence, accounted for 39% of the variance for blacks, 31% for whites; Self-acceptance accounted for 25% and 23% of the variance, in the same order; Openness to Change, 19% and 21%; Tolerance, 17% and 16%; and Identity, a factor in the structure of attitudes for whites only, 9%. These figures represent the proportion of variance in the total score accounted for by each factor. Appendices C and D show the total variance in each factor for the 5- and 4-factor solution for whites and blacks, respectively (the proportion of total score variance is the variance shown in Appendices C and D divided by the total score variance).

It is interesting to note that in the earlier investigation (Starr, et al., 1972), it was demonstrated that the Independence subscale carried the burden of black-white differences in the total PSM scores. We see now that this subscale is also responsible for the greatest amount of differentiation within race, especially among blacks.

Overall, analysis of the factor structure reveals racial similarities more than racial differences.

Item analysis

A study of black-white differences on the psychosocial maturity

scale must finally lead to the discussion of specific items which differentiate between blacks and whites. Appendix E lists all 54 items, gives the per cent of children of each race who answer with the mature response, and cites the percentage difference between the races. For the purposes of the analysis which follows, the 54 items were separated into five blocks of approximately 10 items each, at both grade levels, on the basis of how large a racial difference they evoked. We will describe the content of items in the two extreme categories. These items are listed separately by grade level in Tables 9 and 10.

Of the 10 items which discriminate <u>least</u> between blacks and whites at grade 5 (differences between 0 - 4%), half come from the Openness to Change scale and are concerned with innovations in school practices and curricula. The overall endorsement rate of these items, for both races, is below 50% (see Appendix E), indicating that the mature answer is not typical of the majority of either black or white youngsters at this age. (The remainder of the educational change items all fall at or below the middle category with respect to black-white differences.)

Three items in the least discriminating category deal with jobs. Two of the three come from the Independence scale and, taken together, reflect the ambivalence of children of both races about reliance on others with respect to making a job choice. On the one hand, a majority say, "When it comes to choosing a job, I'll make up my own mind." Yet a majority also endorse the item, "You can't go very far wrong by following your parents' advice about which job you choose." Such conflict is understandable in children this young and this distant from the job-market. A majority of children of both races also say

that they "know very little about the requirements of jobs."[1] This item is located on the Independence scale for blacks and on the shorter but conceptually-related Identity scale for whites.

The two remaining items come from the Self-Acceptance scale, and were endorsed by over half of both groups. One is an expression of assertiveness: "If I have something to say, I usually say it;" the other an expression of popularity: "I'm popular with kids my own age."

Nine items were placed in the category indicating the highest level of differentiation (16-22%) between blacks and whites among 5th graders (see Table 9). Six are from the Independence scale and deal with occupations. The themes which are present in four of these items, and which are more characteristic of blacks, are (a) belief that chance determines one's entry into a particular occupation; (b) doubts that hard work will lead to a high level of success; (c) feelings that appealing work is not available; (d) postponement of decision-making about occupational choice until the school years are over. (The last theme is an understandable outgrowth of the former three.) Looking at the overall endorsement frequencies, we find that more than 50% of the blacks (and on the other hand, fewer than 50% of the whites) answer in the direction just indicated on the set of items described, with the exception of the item linking hard work with success, for which endorsement frequencies were 63% and 79% for blacks and whites respectively. The other two items with job-content stress the desire for high pay and fame, both endorsed by a majority of blacks and a minority of whites. The pattern of responses underlying the six job-related items seems to

[1] Of the 20 other items on the Independence scale, 14 are job-related and an equal number fall at or below, versus above, the middle category with respect to how sharply they differentiated between races. All the items that reflect independence in non-work contexts fall at or below the middle category.

be, for blacks more than whites, anxiety about the possibility of exercising occupational choice and achieving success, accompanied by aspirations for fame and money. These black-white differences in occupational values are probably linked to differences in socioeconomic background between the two races since the values held by blacks are also known to be characteristic of lower class whites (Hyman, 1953). It is possible that blacks, experiencing a greater awareness than whites of lack of occupational opportunity, substitute financial success for occupational advancement as their major concern. Indeed, a study on the occupational behavior of adult men indicates that blacks are more oriented toward money than prestige when seeking employment (Blum, 1971). Endorsement of the item, "Choose a job in which you can be famous," may result from the view that such jobs provide one of the few ways to attain the goal of economic success.

The three remaining items in the group which most strongly differentiate between blacks and whites are from the Social Tolerance scale; all deal with relationships to people who are poorer than oneself. A sample item is: "How would you feel about having as a best friend a person whose family is much poorer than your own?" Approximately half the blacks reply in the direction consistent with the concept of psychosocial maturity, either "not minding" or "liking" the idea, as opposed to about 70% of whites. Interestingly, Social Tolerance items concerned with religious and racial differences do not differentiate black and white respondents as strongly. Possible interpretations of these findings are that black children, more than white children, feel their own status threatened by contact with people of lower social standing

Table 9

Items Which Differentiate Least and Most Between Black and White Respondents at Grade 5[a]

Items with smallest black-white differences			Item with largest black-white differences		
Subscale			Subscale		
Self-acceptance	4*	I'm popular with kids my own age.	Independence	10	If I work at something long enough, I will succeed.
Self-acceptance	8*	If I have something to say, I usually say it.	Independence	28	I'm not going to worry about choosing an occupation until I'm out of school.
Openness to change	12	There will be no marks and no report cards. Pupils will talk over their work with their teachers as often as they like.	Independence	32	It doesn't matter which job you choose as long as it pays well.
Openness to change	13	Schools will be open 24 hours each day. Pupils can use the building at any time.	Independence	35*	You get into an occupation mostly by chance.
Openness to change	14	Pupils will work with teachers alone or in small groups.	Independence	40	I really can't find any work that appeals to me.
Openness to change	19*	To learn about the people and the language of another country, pupils will spend some time living in foreign countries.	Independence	41*	Choose a job in which you can be famous.
Openness to change	20*	To learn about different people in this country, pupils will spend time living in different sections of the United States.	Social tolerance	52	How would you feel about having as a best friend a person whose family is much poorer than yours?
Independence	33	You can't go very far wrong by following your parents' advice about which job to choose.	Social tolerance	53	How would you feel about playing on the same team with a person whose family is much poorer than yours?
Independence	37	When it comes to choosing a job, I'll make up my own mind.	Social tolerance	54	How would you feel about sitting in class next to a person whose family is much poorer than yours?
Independence for blacks; Identity for whites	46*	I know very little about the requirements of jobs.			

[a] Items are numbered as they appear in Appendix E.

* Item falls in the same category at both grade levels.

Table 10

Items Which Differentiate Least and Most Between Black and White Respondents at Grade 11[a]

Items with smallest black-white differences			Items with largest black-white differences		
Subscale			Subscale		
Self-acceptance	2	Someone always has to tell me what to do.	Independence	26	People should not be allowed to say what they think.
Self-acceptance	4*	I'm popular with kids my own age.	Independence	31	I seldom think about the job I want to enter.
Self-acceptance	8*	If I have something to say, I usually say it.	Independence	33	You can't go very far wrong by following your parents' advice about which job to choose.
Openness to change	14	Pupils will work with teachers alone or in small groups.	Independence	34	Whether you're interested in a particular kind of work is not as important as whether you can do it.
Openness to change	17	Pupils will have the use of a computer for arithmetic and many other things.	Independence	35*	You get into an occupation mostly by chance.
Openness to change	18	There will be quiet places to learn and study on one's own.	Independence	41*	Choose a job in which you can be famous.
Openness to change	19*	To learn about the people and the language of another country, pupils will spend some time living in foreign countries.	Social tolerance	49	How would you feel about having as a best friend a person whose ideas about God are very different from your own?
Openness to change	20*	To learn about different people in this country, pupils will spend time living in different sections of the United States.	Social tolerance	50	How would you feel about playing on the same team with a person whose ideas about God are very different from your own?
Independence	27	I plan to follow the line of work my parents suggest.	Social tolerance	51	How would you feel about sitting in class next to a person whose ideas about God are very different from your own?
Independence for blacks; Identity for whites	44	I don't know how to go about getting into the kind of work I want to do.			
Independence for blacks; Identity for whites	45	I don't know what courses I should take in school.			
Independence for blacks; Identity for whites	46*	I know very little about the requirements of jobs.			

[a]Items are numbered as they appear in Appendix E.

*Item falls in the same category at both grade levels.

(and hence avoid people who are much poorer); or that they prefer establishing ties with people who have more of the resources or characteristics they value (and hence approach people with equal or greater financial assets).

Table 10 shows the items associated with the smallest and the largest racial differences at grade 11. Twelve items were placed in the former category. These items evoke minimal differences, between 0-3%. Three distinct clusters can be isolated. One is composed of three items which deal with self-direction, assertiveness, and popularity - all from the Self-Acceptance scale. A second is composed of five items that focus on educational innovation and come from the Openness to Change scale. The third, composed of three items drawn from the Independence scale, concerns job choice and job entry. A last item, also described below, belongs conceptually in the same cluster, although for whites it is located on the short Identity scale.

It is interesting to note that six items overlap with items found in this category at grade 5, two dealing with Self-Acceptance (personal assertiveness and popularity), three with Openness to Change (educational innovation) and one with Independence and Identity (job-entry).[1] Endorsement frequencies at the 11th grade for items also differentiating the races at grade 5 are routinely higher.[2] A majority of both black and white respondents now endorse the six items common to this category at both grade levels, a shift that is particularly noticeable in the Openness to Change and Independence items.

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[1] These items are starred in Tables 9 and 10.

[2] It will be recalled that items were selected for the PSM scale in part because they reflected age differences -- 11th graders scoring higher, i.e., more self-accepting, independent, etc., than 5th graders.

Among those items which emerge for the first time, the most notable are ones that reflect concern about preparing for and getting a job. This problem is of course a more immediate reality for children near the end of their high school years. Thus, while the majority of both blacks and whites disagree, a considerable number of each group still admits, "I don't know how to go about getting into the work I want to do" and "I don't know what courses I should take in school." In general, items dealing with freedom from parental domination in job choice show a great increase in endorsement frequency from grade 5 to grade 11. One item of this type falls into the category presently under discussion: 80% of black respondents and 83% of whites reject the statement: "I plan to follow the line of work my parents suggest."

Nine items were placed in the category which shows the largest black-white differences (15-25%). The two starred items in Table 10 also fell in this category at grade 5. As would be expected on the basis of the earlier paper (Starr et al., 1972), where it was found that the Independence scale accounted for most of the racial differences in PSM, the majority of items in this category are from that scale, as they were also at the 5th grade level. Five of these six Independence items deal with matters related to jobs. For example, a statement rejected by considerably more whites than blacks (but by a majority of both) is, "I seldom think about the job I want to enter." Another item to which the same descriptive comments apply is, "You get into an occupation mostly by chance."

Taken together, the six job-related items suggest that blacks are more likely than whites to desist from thinking about the job they want, to believe that chance governs entry into an occupation, to regard interest in a job as less important than aptitude for it, and to feel

that parental advice may be necessary in making job-choices. Again, side by side with the perception by blacks of greater constraints on job-choice is the aspiration noted at the earlier grade level: namely, "Choose a job in which you can be famous." This statement is endorsed by 50% of the blacks, but by only 25% of the whites.

It is of considerable interest that the Social Tolerance items which distinguish blacks and whites at 11th grade are not the ones which did so earlier. At grade 5, blacks were more likely than whites to reject closeness of various kinds to a person whose family was poorer than their own. This issue now produces only moderate racial differences, in the range of 5-8%. Perhaps the progress of youngsters through the educational system to at least the 11th grade level makes reasonable financial rewards seem more likely and renders students less needful of deriving (fearful of losing) social status on the basis of the financial characteristics of their friends.[1] At grade 11 the theme of the items which sharply differentiate the races involves feelings about people whose ideas about God are very different from one's own. No convincing explanation of the racial differences emerging in this area at grade 11 suggests itself.

Summary. To recapitulate briefly, it appears from our item-analysis that the greatest similarities between blacks and whites at both grades 5 and 11 are in the area of openness to educational change. At the higher grade level uncertainty about preparing for and getting into a desired occupation is also common to youngsters of both races. The

[1] This interpretation is consistent with the fact that blacks show proportionately more growth than whites in rejecting an item (not in the category of items under discussion) which states that good pay should be the prime consideration in choosing a job (item 32, Appendix B).

greatest racial differences lie in two areas: First, blacks express less feeling of personal control over job choice and more pessimism over work enjoyment and success than whites; second, blacks report greater discomfort with relationships to people who are different from themselves (poorer, or of another religion).

A comment on the 10 so-called "biased" items

In Part I of this paper we selected and discussed a subset of items which were considered likely to reflect racial differences because they were subject to influence by the different social experiences and expectations of blacks and whites. This list of items (shown in Table 2) can be compared with the empirical classification of items which most (and least) strongly differentiated between the races. The comparison shows that none of the 10 items selected on a priori grounds appears among the items which evoke the smallest race differences at either grade 5 or grade 11. Only two of the 10 items are found among the nine most differentiating items at grade 5, and only one at grade 11.[1] It is apparent, therefore, that the items expected on theoretical grounds to differentiate between blacks and whites because of differences in their social conditions are not in general the ones that most sharply distinguish the races. Such a finding is of course anticipated by the analyses made in Part I of this report.

[1] The items are: at the 5th grade, "If I work at something long enough, I will succeed" and "I really can't find any work that appeals to me;" and at the 11th grade, "You get into an occupation mostly by chance."

Conclusion

What have we learned in this further analysis of race differences on the psychosocial maturity scale?

The possibility that certain items do not reflect psychosocial development for members of both races was raised, examined, and, given the limitations of the available data, has been put temporarily to rest. Optimistic responses to items concerned with personal control over work opportunities, it had been conjectured, might be related to other aspects of maturity and to effective functioning for whites -- but not for blacks, since their control is in fact more limited. This argument was not supported and the presence of such items did not appear to invalidate the PSM scale for blacks.

A related but broader question has also been raised. This question is whether the structure of attitudes on the PSM scale is similar for blacks and whites, or whether the same responses have a different underlying meaning for the two races. The question has been resolved by demonstrating a very similar factorial structure for blacks and whites.

Since race differences at the item level were not the concern of the earlier investigation, in this paper we have analyzed both differences and similarities at the item level. The greatest similarities emerge with respect to attitudes toward educational innovations; the greatest differences occur with respect to feelings of control over job choice, expectations of job-success and job-satisfaction, and anxiety over differences in status and belief among people. Certain of these findings could have been anticipated on the basis of the earlier findings with respect to subscale differences. The present analysis, however, high-

lights the particular items which carry the burden of such differences, and points also to similarities between races at the item level.

Finally, black-white differences in the relationship of PSM to academic achievement have not been examined in any of the previous reports. We now see that the attitudes incorporated in the present PSM scale show a declining relationship to achievement over the school years for whites, but not for blacks; and that by grade 11, the scale is associated with achievement to roughly the same degree for both races. This association is of interest not only because of the intrinsic importance which educational researchers attach to correlates of academic achievement, but because academic achievement can be viewed as a plausible, if imperfect, indicator of effective functioning -- the attribute on which the validity of the PSM scale hinges.

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APPENDIX A

Questionnaire Format and Maturity Key

The questionnaire format for the 54 items of the psychosocial maturity scale is given below. The asterisk indicates which response or responses are "mature."

DIRECTIONS: Please mark each statement in the following way: If the statement describes how you usually feel, check "Like me". If the statement does not describe how you usually feel, check "Unlike me". There are no right or wrong answers.

	Like me	Unlike me
1. Luck decides most things that happen to me.	_____	* _____
2. Someone always has to tell me what to do.	_____	* _____
3. It takes me a long time to get used to anything new.	_____	* _____
4. I'm popular with kids my own age.	* _____	_____
5. If I work hard, I can be what I want to be.	* _____	_____
6. If I stick to something long enough, I can make it work.	* _____	_____
7. If I work hard, I can get a good job.	* _____	_____
8. If I have something to say, I usually say it.	* _____	_____
9. There isn't much of a chance for a person like me to succeed in life.	_____	* _____
10. If I work at something long enough, I will succeed.	* _____	_____

SOME PEOPLE SAY THAT IN ORDER TO KEEP UP IN A FAST MOVING WORLD IT WILL BE IMPORTANT TO KEEP LEARNING AND STUDYING ALL DURING OUR LIVES. OTHER PEOPLE SAY THAT ONCE A PERSON FINISHES SCHOOL, HE SHOULD BE ABLE TO HANDLE ANYTHING THAT COMES ALONG.

DIRECTIONS: Check the one column that best describes you. If you wish to change an answer, erase completely your first mark.

DO YOU THINK YOU WILL HAVE TO KEEP LEARNING AND STUDYING (IN OR OUT OF SCHOOL) IN ORDER TO:

	It will be very important	It will be quite important	It will be somewhat important	It will not be important	I can not say
11. Make good decisions in voting.	*	*			

DIRECTIONS: TRY TO PLACE YOURSELF IN THE FOLLOWING SITUATION:

BEFORE SCHOOL BEGAN ONE MORNING, YOU AND A GROUP OF CLASSMATES WERE HAVING A TALK ABOUT THE YEAR 1989 AND YOU WERE TRYING TO IMAGINE YOURSELVES GOING TO SCHOOL IN 1989. ITEMS 12 to22 ARE SOME OF YOUR CLASSMATES IDEAS.

	I accept it	I can not say	I do not accept it
12. There will be no marks and no report cards. Pupils will talk over their work with their teachers as often as they like.	*		
13. Schools will be open 24 hours each day. Pupils can use the building at any time.	*		
14. Pupils will work with teachers alone or in small groups.	*		
15. All the latest and best reading materials will be quickly available through a computer.	*		
16. There will be TV, movies, records, and tapes which pupils can use by themselves.	*		

	I accept it	I can not say	I do not accept
17. Pupils will have the use of a computer for arithmetic and many other things.	*		
18. There will be quiet places to learn and study on one's own.	*		
19. To learn about the people and the language of another country, pupils will spend some time living in foreign countries.	*		
20. To learn about different people in this country, pupils will spend time living in different sections of the United States.	*		
21. Pupils will learn in factories, laboratories, hospitals, museums, theaters and offices. Pupils will visit these places if they wish to learn about them and about the people in them.	*		
22. Pupils will talk with others all over the world by way of satellite.	*		

DIRECTIONS: READ EACH STATEMENT, THINK ABOUT WHAT YOU HAVE DONE IN THE PAST IF YOU WERE EVER FACED WITH THE SITUATION AND MARK YOU ANSWER BY CHECKING THE COLUMN THAT FITS BEST. IF YOU NEVER FACED THE SITUATION, TRY TO IMAGINE WHAT YOU WOULD DO. DON'T SPEND TOO MUCH TIME ON ANY ONE ITEM.

	Always	Most of the time	Some-times	Very seldom	Never
23. I like to earn my own money when I can.	*	*			
24. A man should work and earn his own living if he can.	*	*			
25. A man should vote the same way his friends do.				*	*
26. People should not be allowed to say what they think.				*	*

DIRECTIONS: THE ITEMS BELOW ARE STATEMENTS ABOUT OCCUPATIONAL CHOICE AND WORK. OCCUPATIONAL CHOICE MEANS THE KIND OF JOB OR WORK THAT YOU THINK YOU WILL PROBABLY BE DOING WHEN YOU FINISH ALL OF YOUR SCHOOLING. IF YOU AGREE OR MOSTLY AGREE WITH THE STATEMENT, PUT A CHECK IN THE SPACE HEADED TRUE. IF YOU DISAGREE OR MOSTLY DISAGREE WITH THE STATEMENT, PUT A CHECK IN THE SPACE HEADED FALSE.

	True	False
27. I plan to follow the line of work my parents suggest.	____	*
28. I'm not going to worry about choosing an occupation until I'm out of school.	____	*
29. Your parents probably know better than anyone else which occupation you should enter.	____	*
30. Why try to decide on a job when the future is so uncertain.	____	*
31. I seldom think about the job I want to enter.	____	*
32. It doesn't matter which job you choose as long as it pays well.	____	*
33. You can't go very far wrong by following your parents' advice about which job to choose.	____	*
34. Whether you're interested in a particular kind of work is not as important as whether you can do it.	____	*
35. You get into an occupation mostly by chance.	____	*
36. It's who you know, not what you know, that is important in a job.	____	*
37. When it comes to choosing a job, I'll make up my own mind.	*	____
38. I have little idea of what working will be like.	____	*
39. Choose an occupation, then plan to enter it.	*	____
40. I really can't find any work that appeals to me.	____	*
41. Choose a job in which you can be famous.	____	*
42. The most important part of work is the pleasure which comes from doing it.	*	____
43. Why worry about choosing a job when you don't have anything to say about it.	____	*

	True	False
44. I don't know how to go about getting into the kind of work I want to do.	____	* ____
45. I don't know what courses I should take in school.	____	* ____
46. I know very little about the requirements of jobs.	____	* ____
47. I can't understand how some people can be so set about what they want to do.	____	* ____

DIRECTIONS: READ EACH QUESTION CAREFULLY AND DECIDE HOW YOU FEEL ABOUT IT. THERE ARE FIVE POSSIBLE ANSWERS TO CHOOSE FROM. BE SURE TO ANSWER EACH QUESTION. CHECK ONLY ONE SPACE FOR EACH QUESTION.

	I would like it	I would not mind it	I would rather not	I would dislike it	I can not say
48. How would you feel about sitting in class next to a person whose skin color is different from your own?	* ____	* ____	____	____	____
49. How would you feel about having as a best friend a person whose ideas about God are very different from your own?	* ____	* ____	____	____	____
50. How would you feel about playing on the same team with a person whose ideas about God are very different from your own?	* ____	* ____	____	____	____
51. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?	* ____	* ____	____	____	____
52. How would you feel about having as best friend a person whose family is much poorer than yours?	* ____	* ____	____	____	____
53. How would you feel about playing on the same team with a person whose family is much poorer than yours?	* ____	* ____	____	____	____
54. How would you feel about sitting in class next to a person whose family is much poorer than yours?	* ____	* ____	____	____	____

APPENDIX B

Factor Loadings of Maturity Scale Items

Factor Name: Self-acceptance

Item	Factor Loading		Communality	
	White	Black	White	Black
1. If I work at something long enough, I will succeed.	.70	.72	.67	.57
2. If I work hard, I can get a good job.	.67	.66	.63	.47
3. If I work hard, I can be what I want to be.	.67	.64	.62	.45
4. If I stick to something long enough, I can make it work.	.64	.60	.52	.40
5. There isn't much of a chance for a person like me to succeed in life.	.61	.57	.52	.40
6. I'm popular with kids my own age.	.47	.43	.27	.21
7. Someone always has to tell me what to do.	.47	.54	.37	.35
8. It takes me a long time to get used to anything new.	.43	.49	.32	.30
9. If I have something to say, I usually say it.	.42	.47	.22	.22
10. Luck decides most things that happen to me.	.38	.36	.24	.19

Factor Name: Openness to Change

11. There will be TV, movies, records, and tapes which pupils can use by themselves.	.65	.60	.52	.38
12. To learn about different people in this country, pupils will spend time living in different sections of the United States.	.62	.60	.41	.37

Item	Factor Loading		Communality	
	White	Black	White	Black
13. Pupils will learn in factories, laboratories, hospitals, museums, theaters and offices. Pupils will visit these places if they wish to learn about them and about the people in them.	.61	.59	.47	.39
14. All the latest and best reading materials will be quickly available through a computer.	.59	.53	.45	.31
15. To learn about the people and the language of another country, pupils will spend some time living in foreign countries.	.56	.56	.35	.32
16. There will be quiet places to learn and study on one's own.	.55	.58	.47	.39
17. Pupils will talk with others all over the world by way of satellite.	.55	.56	.33	.33
18. Pupils will have the use of a computer for arithmetic and many other things.	.50	.52	.27	.29
19. Pupils will work with teachers alone or in small groups.	.47	.43	.30	.21
20. There will be no marks and no report cards. Pupils will talk over their work with their teachers as often as they like.	.45	.28	.22	.08
21. Schools will be open 24 hours each day. Pupils can use the building at any time.	.33	.32	.12	.10
22. It will be important to keep learning and studying to make good decisions in voting.	.33	.11	.21	.02
Factor Name: Independence				
23. Why worry about choosing a job when you don't have anything to say about it.	.64	.60	.57	.39
24. When it comes to choosing a job, I'll make up my own mind.	.60	.58	.54	.39

Item	Factor Loading		Communality	
	White	Black	White	Black
25. You get into an occupation mostly by chance.	.59	.55	.52	.33
26. It doesn't matter which job you choose as long as it pays well.	.58	.55	.48	.32
27. Choose a job in which you can be famous.	.55	.61	.36	.17
28. The most important part of work is the pleasure which comes from doing it.	.55	.38	.50	.28
29. It's who you know, not what you know, that is important in a job.	.54	.58	.38	.37
30. Your parents probably know better than anyone else which occupation you should enter.	.54	.43	.43	.21
31. A man should work and earn his own living if he can.	.54	.53	.56	.33
32. Why try to decide on a job when the future is so uncertain.	.53	.54	.44	.31
33. I'm not going to worry about choosing an occupation until I'm out of school.	.52	.43	.50	.36
34. Choose an occupation, then plan to enter it.	.50	.55	.36	.34
35. I seldom think about the job I want to enter.	.49	.48	.42	.27
36. I plan to follow the line of work my parents suggest.	.46	.44	.33	.23
37. I really can't find any work that appeals to me.	.46	.61	.46	.39
38. You can't go very far wrong by following your parents' advice about which job to choose.	.44	.32	.25	.11
39. A man should vote the same way his friends do.	.43	.46	.31	.23

Item	Factor Loading		Communality	
	White	Black	White	Black
40. I have little idea of what working will be like.	.42	.55	.36	.33
41. I like to earn my own money when I can.	.41	.43	.36	.21
42. People should not be allowed to say what they think.	.38	.28	.28	.10
43. Whether you're interested in a particular kind of work is not as important as whether you can do it.	.38	.31	.18	.10
Factor Name: Identity (for Whites); Independence (for Blacks)				
	(Iden.)	(Indep.)		
44. I don't know how to go about getting into the kind of work I want to do.	.51	.39	.37	.17
45. I know very little about the requirements of jobs.	.41	.48	.27	.19
46. I don't know what courses I should take in school.	.40	.48	.36	.26
47. I can't understand how some people can be so set about what they want to do.	.37	.50	.27	.28
Factor Name: Social Tolerance				
48. How would you feel about playing on the same team with a person whose ideas about God are very different from your own?	.70	.73	.66	.58
49. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?	.67	.74	.62	.60
50. How would you feel about playing on the same team with a person whose family is much poorer than yours?	.67	.60	.80	.61
51. How would feel about sitting in class next to a person whose family is much poorer than yours?	.65	.57	.73	.54

Item	Factor Loading		Communality	
	White	Black	White	Black
52. How would you feel about having as best friend a person whose family is much poorer than yours?	.57	.54	.53	.46
53. How would you feel about sitting in class next to a person whose skin color is different from your own?	.53	.46	.59	.45
54. How would you feel about having as a best friend a person whose ideas about God are very different from your own?	.50	.59	.34	.36

APPENDIX C

Factor Structure of PSM Scale for Whites[+]

Order of Items in Appendix B	Independence	Self-Acceptance	Openness to Change	Tolerance	Identity
Item	1	2	3	4	5
1	0.250	-0.380	-0.113	0.114	0.086
2	0.197	-0.472	-0.120	0.237	0.189
3	0.244	-0.425	-0.167	0.184	0.117
4	0.145	-0.470	-0.121	0.054	0.095
5	0.261	-0.665	-0.172	0.265	0.105
6	0.233	-0.641	-0.076	0.198	0.098
7	0.257	-0.668	-0.169	0.288	0.076
8	0.048	-0.416	-0.144	0.125	0.115
9	0.262	-0.606	-0.157	0.209	0.138
10	0.304	-0.701	-0.132	0.251	0.083
11	0.200	-0.178	-0.334	0.043	0.142
12	0.047	-0.090	-0.450	0.064	0.050
13	0.086	-0.021	-0.329	0.059	0.046
14	0.180	-0.101	-0.473	0.152	0.123
15	0.259	-0.144	-0.590	0.095	0.040
16	0.234	-0.168	-0.648	0.093	0.062
17	0.071	-0.084	-0.504	0.035	0.047
18	0.327	-0.246	-0.545	0.065	0.077
19	0.132	-0.062	-0.567	0.088	0.035
20	0.144	-0.024	-0.617	0.055	0.058
21	0.262	-0.135	-0.608	0.018	0.117
22	0.021	-0.097	-0.553	0.096	0.082
23	0.412	-0.344	-0.206	0.121	0.103
24	0.546	-0.328	-0.322	0.213	0.072
25	0.435	-0.271	-0.203	0.097	0.030
26	0.377	-0.137	-0.302	0.151	0.021
27	0.461	-0.159	-0.212	0.195	0.076
28	0.521	-0.240	-0.188	0.183	0.321

Factor Structure of PSM Scale for Whites[+] (Continued)

Order of Items in Appendix B	Independence	Self-Acceptance	Openness to Change	Tolerance	Identity
Item	1	2	3	4	5
29	0.542	-0.171	-0.275	0.143	0.101
30	0.534	-0.159	-0.143	0.146	0.295
31	0.486	-0.216	-0.191	0.159	0.283
32	0.583	-0.217	-0.173	0.127	0.216
33	0.441	-0.071	-0.196	0.111	0.064
34	0.367	-0.075	-0.032	0.149	0.119
35	0.586	-0.225	-0.174	0.130	0.276
36	0.541	-0.145	-0.170	0.113	0.166
37	0.602	-0.266	-0.278	0.154	0.050
38	0.423	-0.198	-0.143	0.027	0.349
39	0.498	-0.185	-0.186	0.151	0.152
40	0.460	-0.261	-0.151	0.040	0.401
41	0.548	-0.123	-0.132	0.125	0.127
42	0.549	-0.299	-0.283	0.144	0.088
43	0.637	-0.239	-0.214	0.163	0.177
44	0.232	-0.190	-0.146	0.015	0.508
45	0.348	-0.223	-0.141	0.084	0.399
46	0.255	-0.153	-0.093	0.064	0.411
47	0.312	-0.088	-0.116	0.118	0.369
48	0.237	-0.420	-0.189	0.533	0.189
49	0.191	-0.189	-0.110	0.500	0.050
50	0.270	-0.245	-0.181	0.702	0.020
51	0.273	-0.271	-0.159	0.671	0.025
52	0.169	-0.333	-0.119	0.572	0.230
53	0.246	-0.430	-0.182	0.672	0.263
54	0.253	-0.389	-0.179	0.648	0.255
Variance	7.099	5.214	4.706	3.621	2.004

[+]The sample consists of 863 randomly selected 11th grade students. The factor structure was replicated on another sample of the same size, drawn from the same population.

APPENDIX D

Factor Structure of PSM Scale for Blacks[+]

Order of Items in Appendix B	Independence	Self-Acceptance	Openness to Change	Tolerance
Item	1	2	3	4
1	-0.236	0.355	0.025	0.073
2	-0.212	0.537	0.045	0.112
3	-0.189	0.492	0.071	0.137
4	-0.128	0.432	-0.029	0.035
5	-0.158	0.643	0.041	0.118
6	-0.126	0.599	0.088	0.110
7	-0.107	0.662	0.047	0.119
8	-0.054	0.467	0.048	0.030
9	-0.242	0.571	0.047	0.117
10	-0.183	0.720	0.076	0.104
11*	-0.075	0.043	0.111	0.018
12*	0.056	-0.025	0.278	-0.014
13	0.011	-0.017	0.318	0.043
14	-0.157	0.001	0.425	0.003
15	-0.143	0.054	0.533	0.034
16	-0.136	0.067	0.596	0.006
17	-0.107	0.074	0.518	-0.043
18	-0.222	0.048	0.580	-0.016
19	-0.108	0.036	0.555	0.044
20	-0.098	0.056	0.599	0.044
21	-0.179	0.075	0.592	0.004
22	-0.039	0.035	0.563	0.079
23	-0.432	0.150	0.020	0.041
24	-0.533	0.180	0.088	0.033
25	-0.457	0.123	0.025	0.024
26*	-0.280	0.117	0.052	0.023
27	-0.437	0.109	0.086	0.126

Factor Structure of PSM Scale for Blacks[+] (Continued)

Order of Items in Appendix B Item	Independence 1	Self-Acceptance 2	Openness to Change 3	Tolerance 4
28	-0.577	0.061	0.134	0.069
29	-0.428	0.059	0.115	0.106
30	-0.544	0.036	0.066	0.112
31	-0.480	0.065	0.113	0.138
32	-0.548	0.050	0.064	0.132
33	-0.316	0.082	0.030	0.078
34	-0.311	0.002	0.043	-0.002
35	-0.551	0.105	0.100	0.095
36	-0.580	0.163	0.069	-0.050
37	-0.584	0.191	0.117	-0.017
38	-0.546	0.123	0.131	-0.014
39	-0.553	0.135	0.125	-0.029
40	-0.607	0.137	0.076	0.012
41	-0.384	0.067	0.008	0.125
42	-0.503	0.124	0.106	-0.026
43	-0.599	0.132	0.087	0.080
44	-0.394	0.092	0.082	0.035
45	-0.484	0.142	0.020	0.039
46	-0.423	0.067	0.081	0.020
47	-0.495	0.043	0.043	0.162
48	-0.137	0.468	0.032	0.463
49	-0.080	0.069	0.053	0.585
50	-0.169	0.141	0.033	0.728
51	-0.165	0.142	0.024	0.740
52	-0.091	0.398	0.051	0.540
53	-0.132	0.477	0.029	0.600
54	-0.125	0.442	0.049	0.574
Variance	6.623	4.305	3.169	2.891

[+]The sample consists of 1194 randomly selected 11th grade students.

*Item does not load appreciably on any factor.

Appendix E

Endorsement Frequency (Percent Mature Response) For Each Item on PSM Scale

Item	Grade 5		Grade 11	
1. Luck decides most things that happen to me.	white	55	white	73
	black	47	black	66
	% difference	8	% difference	7
2. Someone always has to tell me what to do.	white	66	white	83
	black	54	black	80
	% difference	12	% difference	3
3. It takes me a long time to get used to anything new.	white	63	white	80
	black	52	black	75
	% difference	11	% difference	5
4. I'm popular with kids my own age.	white	58	white	70
	black	62	black	70
	% difference	4	% difference	0

Item	Grade 5		Grade 11	
5. If I work hard, I can be what I want to be.	white	74	white	90
	black	69	black	86
	% difference	5	% difference	4
6. If I stick to something long enough, I can make it work.	white	77	white	89
	black	65	black	83
	% difference	12	% difference	6
7. If I work hard, I can get a good job.	white	81	white	91
	black	76	black	85
	% difference	5	% difference	6
8. If I have something to say, I usually say it.	white	58	white	68
	black	59	black	69
	% difference	1	% difference	1
9. There isn't much of a chance for a person like me to succeed in life.	white	69	white	86
	black	56	black	79
	% difference	13	% difference	7

Item	Grade 5		Grade 11	
10. If I work at something long enough, I will succeed.	white	79	white	90
	black	63	black	87
	% difference	16	% difference	3
11. Make good decisions in voting.	white	59	white	70
	black	48	black	59
	% difference	11	% difference	11
12. There will be no marks and no report cards. Pupils will talk over their work with their teachers as often as they like.	white	30	white	53
	black	31	black	39
	% difference	1	% difference	14
13. Schools will be open 24 hours each day. Pupils can use the building at any time.	white	27	white	42
	black	31	black	34
	% difference	4	% difference	8
14. Pupils will work with teachers alone or in small groups.	white	49	white	73
	black	49	black	72
	% difference	0	% difference	1

Item	Grade 5		Grade 11	
15. All the latest and best reading materials will be quickly available through a computer.	white	50	white	78
	black	41	black	68
	% difference	9	% difference	10
16. There will be TV, movies, records, and tapes which pupils can use by themselves.	white	67	white	85
	black	60	black	77
	% difference	7	% difference	8
17. Pupils will have the use of a computer for arithmetic and many other things.	white	51	white	66
	black	46	black	66
	% difference	5	% difference	0
18. There will be quiet places to learn and study on one's own.	white	67	white	86
	black	56	black	84
	% difference	11	% difference	2
19. To learn about the people and the language of another country, pupils will spend some time living in foreign countries.	white	43	white	67
	black	39	black	64
	% difference	4	% difference	3

Item	Grade 5		Grade 11	
20. To learn about different people in this country, pupils will spend time living in different sections of the United States.	white	46	white	66
	black	44	black	64
	% difference	2	% difference	2
21. Pupils will learn in factories, laboratories, hospitals, museums, theaters and offices. Pupils will visit these places if they wish to learn about them and about the people in them.	white	67	white	82
	black	59	black	77
	% difference	8	% difference	5
22. Pupils will talk with others all over the world by way of satellite.	white	45	white	62
	black	39	black	56
	% difference	6	% difference	6
23. I like to earn my own money when I can.	white	73	white	85
	black	61	black	78
	% difference	12	% difference	7
24. A man should work and earn his own living if he can.	white	72	white	93
	black	58	black	84
	% difference	14	% difference	9

Item		Grade 5		Grade 11
25. A man should vote the same way his friends do.	white	62	white	82
	black	49	black	76
	% difference	13	% difference	6
26. People should not be allowed to say what they think.	white	54	white	71
	black	43	black	48
	% difference	11	% difference	23
27. I plan to follow the line of work my parents suggest.	white	52	white	83
	black	40	black	80
	% difference	12	% difference	3
28. I'm not going to worry about choosing an occupation until I'm out of school.	white	52	white	87
	black	36	black	78
	% difference	16	% difference	9
29. Your parents probably know better than anyone else which occupation you should enter.	white	44	white	82
	black	37	black	70
	% difference	7	% difference	12

Item	Grade 5		Grade 11	
30. Why try to decide on a job when the future is so uncertain.	white	54	white	81
	black	49	black	71
	% difference	5	% difference	10
31. I seldom think about the job I want to enter.	white	49	white	83
	black	34	black	68
	% difference	15	% difference	15
32. It doesn't matter which job you choose as long as it pays well.	white	61	white	85
	black	43	black	72
	% difference	18	% difference	13
33. You can't go very far wrong by following your parents' advice about which job to choose.	white	38	white	67
	black	38	black	52
	% difference	0	% difference	15
34. Whether you're interested in a particular kind of work is not as important as whether you can do it.	white	46	white	59
	black	40	black	44
	% difference	6	% difference	15

Item	Grade 5		Grade 11	
35. You get into an occupation mostly by chance.	white	60	white	84
	black	41	black	68
	% difference	19	% difference	16
36. It's who you know, not what you know, that is important in a job.	white	60	white	80
	black	45	black	72
	% difference	15	% difference	8
37. When it comes to choosing a job, I'll make up my own mind.	white	71	white	89
	black	67	black	82
	% difference	4	% difference	7
38. I have little idea of what working will be like.	white	49	white	77
	black	38	black	70
	% difference	11	% difference	7
39. Choose an occupation, then plan to enter it.	white	64	white	84
	black	58	black	76
	% difference	6	% difference	8

Item	Grade 5		Grade 11	
40. I really can't find any work that appeals to me.	white	64	white	80
	black	48	black	72
	% difference	16	% difference	8
41. Choose a job in which you can be famous.	white	55	white	75
	black	36	black	50
	% difference	19	% difference	25
42. The most important part of work is the pleasure which comes from doing it.	white	70	white	86
	black	65	black	77
	% difference	5	% difference	9
43. Why worry about choosing a job when you don't have anything to say about it.	white	60	white	87
	black	46	black	74
	% difference	14	% difference	13
44. I don't know how to go about getting into the kind of work I want to do.	white	45	white	61
	black	40	black	59
	% difference	5	% difference	2

Item	Grade 5		Grade 11	
45. I don't know what courses I should take in school.	white	46	white	74
	black	41	black	72
	% difference	5	% difference	2
46. I know very little about the requirements of jobs.	white	38	white	58
	black	36	black	57
	% difference	2	% difference	1
47. I can't understand how some people can be so set on what they want to do.	white	41	white	63
	black	35	black	58
	% difference	6	% difference	5
48. How would you feel about sitting in class next to a person whose skin color is different from your own?	white	76	white	90
	black	68	black	85
	% difference	8	% difference	5
49. How would you feel about having as a best friend a person whose ideas about God are very different from your own?	white	52	white	68
	black	45	black	53
	% difference	7	% difference	15

Item	Grade 5		Grade 11	
50. How would you feel about playing on the same team with a person whose ideas about God are very different from your own?	white	56	white	83
	black	44	black	67
	% difference	12	% difference	16
51. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?	white	57	white	84
	black	45	black	67
	% difference	12	% difference	17
52. How would you feel about having as best friend a person whose family is much poorer than yours?	white	69	white	85
	black	47	black	80
	% difference	22	% difference	5
53. How would you feel about playing on the same team with a person whose family is much poorer than yours?	white	74	white	93
	black	51	black	85
	% difference	23	% difference	8
54. How would you feel about sitting in class next to a person whose family is much poorer than yours?	white	71	white	91
	black	49	black	84
	% difference	22	% difference	7